

I Claim:

Sub A²

1. An in-house signal distribution system including:
a main input node mounted in a structure and taking at
least one external signal and converting the at
5 least one external signal to addressed data
packets conveyed in a packet stream to at least
one access node, each access node having a
unique node address;
each access node being an access port including a main
10 module mounted in a wall of the structure and
further including:
a main module connector connected to the packet
stream;
15 at least one distributing connector connected to the
main module and arranged for connection to at
least one device that can receive respective
ones of the at least one signal distributed by
the in-house signal distribution network;
a packet handler that picks packets addressed to
20 the access node from the packet stream; and
the packet handler converting the picked packets
back to their respective ones of the at least
one signal and sending the respective ones of
the at least one signal to a respective
25 distributing connector of the access node; and
a packet stream distributor carrying the packet stream
from the main input node output port to each
access node main module connector, an access
node further including a transceiver in wireless
30 communication with at least one of the main input
node and the at least one device.

2. The system of claim 1 wherein the transceiver is a
radio frequency transceiver.

3. The system of claim 2 wherein the transceiver uses the Bluetooth™ standard.

4. The system of claim 2 wherein the transceiver uses the IEEE 802.11 standard.

5. The system of claim 2 wherein the transceiver in the access node is a distributing connector and sends the picked packets to the at least one device.

6. The system of claim 2 wherein the transceiver is an access node packet stream transceiver, the main input node 10 includes a central node transceiver in radio communication with the access node, and the packet stream distributor includes the radio communication between the central node transceiver and the access node packet stream transceiver.

7. The system of claim 2 wherein the access node 15 further includes an antenna connected to the transceiver.

8. The system of claim 7 wherein the antenna is embedded in a wall plate of the access node.

9. The system of claim 7 wherein a distributing connector receives an antenna cable, thus allowing selective 20 connection of an antenna to the main module.

10. The system of claim 1 wherein the transceiver is an infrared transceiver.

11. The system of claim 10 wherein the infrared transceiver uses an IrDA infrared broadcast standard.

25 12. A packet stream decoding access node being an access port of an in-house digital network and including apparatus that receives addressed data packets from a packet stream carried by a packet stream distributor and converts the addressed data packets into signals usable by 30 devices connected to distributing connectors of the access node, the apparatus of the access node further including:

a main module connector of the access node mounted on a main module of the access node and arranged to receive the packet stream from the packet stream distributor, an installed distributing connector being connected to the main module and arranged for connection to a respective device that can receive a respective one of the signals distributed by the in-house digital network as a respective portion of the packet stream;

5 a packet handling system connected to the main module connector that extracts from the packet stream data packets addressed to one of the access node and a device connected to the access node, the packet handling system including a decoder that decodes the extracted data packets into a signal and sends the signal to a distributing connector connected to the main module; and

10 at least one of the main module connector and the distributing connector being a transceiver in wireless communication with another transceiver of a remote device.

13. The access node of claim 11 wherein: the main module includes an expansion connector into which a submodule can be inserted; and

15 the distributing connector is on the submodule, and the distributing connector is the transceiver.

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14. The access node of claim 13 wherein the transceiver includes an antenna connected to the submodule.

15. The access node of claim 12 wherein: the main module includes an expansion connector into which a submodule can be inserted; and

30 the submodule includes an antenna connector through which an antenna can communicate with the transceiver.

16. The access node of claim 11 wherein the main module connector is the transceiver and the packet stream distributor includes radio transmissions between the transceiver and the another transceiver located in a central 5 node of the in-house network.

17. The access node of claim 11 wherein the transceiver is a radio frequency transceiver.

18. The access node of claim 17 wherein the transceiver uses the Bluetooth™ standard.

10 19. The access node of claim 17 wherein the transceiver uses the IEEE 802.11 standard.

20 20. The access node of claim 11 wherein the transceiver is an IR transceiver.

15 21. In an in-house signal distribution system, an access node of the in-house signal distribution system that is an access port of the in-house signal distribution system and includes:

20 a main module mounted in a communications box of a structure in which the in-house signal distribution system is installed;

25 a main module connector mounted on the main module and connected to a packet stream of the in-house signal distribution system, the packet stream including addressed data packets that carry respective portions of at least one signal distributed by the in-house signal distribution network;

30 at least one distributing connector connected to the main module and arranged for connection to at least one device that can receive respective ones of the at least one signal distributed by the in-house distribution network;

a packet handler that picks packets for the access node from the packet stream;

the packet handler converting the picked packets back to their respective ones of the at least one signal and sending the respective ones of the at least one signal to a respective distributing connector of
5 the access node;

a packet stream distributor carrying the packet stream to the access node main module connector; at least one of the main module connector and the at least one distributing connector including a
10 transceiver in wireless communication with another transceiver of a remote device.

22. The access node of claim 21 wherein the packet stream is generated by a main input node that takes at least one external signal and converts the at least one external
15 signal to addressed data packets carried by the packet stream to the access node, the at least one external signal being at least one signal for distribution, the main input node including the another transceiver, the main module connector including the transceiver, and the packet stream including
20 radio transmissions between the transceiver and the another transceiver.

23. In an access port mounted in a communications box recessed within a wall, the access port being an access node of an in-house signal distribution network and including:
25 an electronic device mounted on a main module and including a transceiver in communication with a packet handler receiving a packet stream that includes addressed data packets, the packet handler taking from the packet stream data packets addressed to the access node, the transceiver further being in wireless communication with a transceiver of a device external to the
30 access port;

5 a first converter of the electronic device in communication with the packet handler that discerns what type of signal each data packet represents, converts the data packet to its signal type, and sends the signal to a connector arranged to receive the signal; and

10 the connector being supported on the main module with one end being accessible from within the communications box for connection to the electronic device and another end being accessible from without the communications box for connection to an external device by a user.

15 24. The access port of claim 23 wherein the connector is an antenna connector that communicates with the transceiver and protrudes through a wall plate mounted across an open end of the communications box.

20 25. A packet stream decoding access node being an access port of an in-house digital network and including apparatus that receives addressed data packets from a packet stream carried by a packet stream distributor and converts the addressed data packets into signals usable by devices connected to physical medium connectors of the access node, the apparatus of the access node further including:

25 a main module connector of the access node mounted on a main module of the access node and arranged to receive the packet stream from the packet stream distributor;

30 a packet handling system connected to the main module connector that extracts from the packet stream data packets addressed to one of the access node and a device connected to the access node, the packet handling system including a decoder that decodes the extracted data packets into a signal and sends the signal to a physical medium connector connected to the main module;

a wireless connection between a transceiver on the main module and another transceiver external of the access node; and

5 wherein the packet handling system sends an acknowledgment signal via the packet stream distributor when an addressed data packet has been successfully extracted from the packet stream.

26. The access node of claim 25 wherein the wireless
10 connection includes the packet stream distributor, the transceiver is the main module connector, and the another transceiver is in a central node of the digital network.

27. The access node of claim 25 wherein the wireless connection includes extracted packets, the transceiver is a
15 distributing connector, and the another transceiver is part of a device accessing the digital network via the wireless connection.

28. The access node of claim 25 further including an antenna connected to the transceiver and mounted in a wall
20 plate of the access node.

29. The access node of claim 25 further including an antenna connector on the main module, the antenna connector itself being connected to the transceiver and providing selective communication between the transceiver
25 and the antenna.